"To this end we need another hammer and other instruments; and to obtain these "we shall need other instruments and so on *ad infinitum*. Thus anybody might "fruitlessly endeavor to prove that men are unable to forge iron. But inasmuch "as men at the beginning, with instruments furnished by nature, were able to make "certain very easy things, although with great labor and imperfectly, and with "these, when they were finished, made other and more difficult things with less "labor and more perfectly, and thus by degrees, advancing from the most simple "productions to tools, and from tools to other productions and tools, were able to "accomplish with small labor so many and such difficult things, so also the intel-"lect, by its own native force, forms for itself intellectual instruments by which it "acquires additional strength for other intellectual works, and from these works, "other instruments or power of further discovery, and thus by degrees advances "until it reaches the pinnacle of wisdom. That this is the way in which the in-"tellect proceeds will be easily seen, provided only we understand what is the "method of investigating the truth, and what are those instruments furnished by "nature which alone are required for the production of other instruments from "them in order to advance further."

Afterwards, follows a discussion of true or adequate ideas, of ideas of fancy, of false ideas and doubtful ideas. The second part of the method consists in "laying down rules whereby unknown things may be perceived in accordance with the standard of the true idea." The treatise breaks off abruptly with the remarks supplied by the old editors—*Reliqua desiderantur*. Nevertheless, as the old editors remark, despite the defects in the book, "it contains much that is remarkable and useful and not a little profitable to the sincere inquirer after truth." The unsigned preface preceding the translation is a lucid and exemplary piece of work.

The price of the book is rather high. T. J. McC.

ON GERMINAL SELECTION. By *August Weismann*. Chicago: The Open Court Publishing Co. 1896. Pages, xii, 61. Price, 25 Cents.

Professor Weismann's Essay on *Germinal Selection*, which was originally an address delivered before the International Congress of Zoölogists at Leyden, in September last, appeared first in *The Monist* for January, 1896, and not until afterwards in its original German version. In its present form it has been enriched by an appendix of thirteen pages discussing the history, bibliography, and present status of such questions as natural and chemical selection, variation and mutation, definitely directed variation, ultimate vital units, utility, internal evolutionary forces, etc., and further by a preface of twelve pages in which Professor Weismann sets forth his views on the method of scientific research, and defends the principles by which he has been guided in the elaboration of his theory of heredity and of his present doctrine of Germinal Selection. With regard to Germinal Selection itself, little need be said here, as its details are presumably already familiar to our readers. Its object is a rehabilitation of the principle of selection which outwardly seems

endangered by the upshot of recent researches, and the demolition of which would in Weismann's view be synonymous with the renunciation of all inquiry concerning the causal relation of vital phenomena. "Knowing this factor," he says, "we "remove, it seems to me, the patent contradiction of the assumption that the gen- "eral fitness of organisms, or the adaptations *necessary* to their existence, are pro- "duced by *accidental* variations—a contradiction which formed a serious stumbling- "block to the theory of selection. Though still assuming that the *primary* variations "are "accidental," I yet hope to have demonstrated that an interior mechanism "exists which compels them to go on increasing in a definite direction, the moment "selection intervenes. *Definitely directed variation exists*, but not predestined "variation, running on independently of the life-conditions of the organism, as "Naegeli, to mention the most extreme advocate of this doctrine, has assumed; on "the contrary, the variation is such as is elicited and controlled by those conditions "themselves though indirectly."

Interesting and valuable to scientists who have not pondered deeply on the ways of their work, are his remarks on the rôle of imagination in research and on the function of theory. He claims for his determinants and ids the same position in biological theory that Maxwell claimed for his mechanical fictions in the province of electricity. He regards them merely as representative models or pictures, or rather as analogues, by the manipulation of which we can mentally follow out the course and development of nature. If our theories serve this end, they have fulfilled their purpose. He contends there is absolutely no other choice left for us in the field of heredity. The problem is too minute for developmental mechanics ever to think of mastering it. In the place of facts impossible to observe, therefore, he claims to have put a theory based on facts, by the mutual interaction of which the approximate truth will be reached.

The value of the pamphlet, which appears in a very cheap but substantial form, as a number of the Religion of Science Library, is enhanced by the addition of an index. T.

INDUCTIVE LOGIC. By *Wm. G. Ballantine*, President of Oberlin College. Boston and London: Ginn & Co. 1896. Pages, 174. Price, 90 cents.

The student of logic must not expect to find in this booklet by the President of Oberlin College an exhaustive and original examination of the principles of inductive reasoning, but simply an attempt to "reproduce some of the excellencies" of Dr. Fowler's "bright and interesting" work, the *Elements of Inductive Logic*, while essaying to substitute a sounder analysis of fundamental principles. The manner in which the book has been compiled is based upon that of most of the newer text-books of logic, such as Jevons. Numerous extracts from scientific treatises have been cited as practical examples of reasoning and the discussion of the principles based upon the data therein found. These extracts are well chosen and eminently designed to enliven and diversify the study of the subject. In the presentation of

his points, whether original or borrowed, Mr. Ballantine is concise and clear, Altogether, the book is well adapted to intermediate academic instruction, although at the particular elementary stage of the educational course for which it is most suitable, most pupils have not yet attained a scientific grasp and breadth of vision which makes such a study a profitable undertaking. Into the author's points of logical doctrine we cannot enter. *μκρκ.*

BUDDHISM IN TRANSLATIONS. By *Henry Clarke Warren.* Cambridge: Harvard University. 1896. Pages, 520. Price, $1.20.

Mr. Henry Clarke Warren's book on Buddhism, will at once take a prominent place among Buddhistic publications. It is the first systematic collection of original translations from the southern canon of Buddhistic Scriptures, including not only passages of those books which have become accessible through the translations of other Pali scholars, but also new materials, for instance, selections from the Visudhimagga which had to be translated from manuscripts.

While Mr. Warren's book is to be recommended as an indispensable *vade-mecum* to all those who for one reason or another are interested in Buddhism, we must here state at once that the uninitiated will, naturally and necessarily, encounter great difficulties, for to appreciate the book one ought to understand the conditions under which Buddhism originated and the significance of the terms âtman, karma, nirvâna, etc., not only in their etymologies and definitions but also in their emotional potencies. Nirvâna may correctly be translated by extinction, but the word extinction does not find that same echo in our souls as nirvâna does in the souls of Buddhists to whom it is identical with a radical extinction of evil, sin, iniquity, pain, passion, hatred, and selfishness, which is regarded as the establishment of the highest bliss imaginable. Nirvâna corresponds to the Christian "heaven," yet it would be a mistake to translate it by the word "heaven"; for that which is commonly thought of when we speak of heaven, an eternal jubilee and glorification of God, would not be regarded as the highest bliss by Buddhists.. There may be, and there are, according to Buddhist conceptions, inhabitants of heaven who have not as yet attained nirvâna.

Mr. Warren has translated âtman by "ego," and sometimes by "self," and these words are the best rendering that can be found; but we must always bear in mind that âtman according to the definition of the Brahman philosophy in Buddha's days meant the "self" in the sense of an immutable, eternal soul-essence of man. The âtman was supposed to be that essential part of the soul which remains the same in all changes, and conditions the identity of a person; it was thought to be the soul itself, and was regarded as a distinct being, distinct from all faculties of the soul and distinct also from all soul-activity. Since Buddhism teaches that nothing is stable in this world, it naturally denies the existence of an âtman.

Buddhism, of course, does not deny the existence of an ego in the sense of the existence of self-consciousness. It only denies the metaphysical assumption that